

PATENT

(Practitioner's Docket No. IN-5574)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Craig J. MCCLANAHAN

Serial No.: 10/065,705

Filed: 11/12/2002

For: ELECTRONIC DISPLAY OF  
AUTOMOTIVE COLORS

Group Art Unit: 1762

Examiner: Not Assigned

I hereby certify that the following papers are being facsimile  
transmitted to the Patent and Trademark Office to Bill Fletcher,  
(fax No.: (571) 273-1419 on March 3, 2004.

Marjorie Ellis

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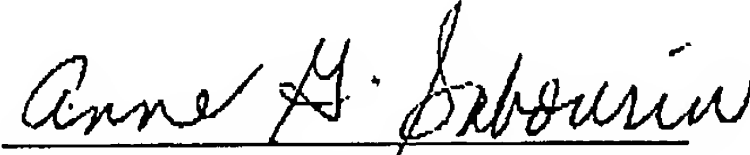
Sir:

On February 21, 2004, Applicants received a call from the PTO requesting  
copies of the original documents electronically filing November 12, 2002 for the  
above-identified application. The wrong papers are filed for this case at the  
PTO.

The following documents were misfiled at the PTO.

- U.S. Filing Receipt dated November 21, 2002
- The Acknowledgment Receipt
- Specification
- Claims
- Abstract
- 3 pages of Drawings with 4 Figures.

Respectfully submitted,

  
Anne Gerry Sabourin  
Registration No. 33,772  
Date: March 3, 2004

BASF Corporation  
26701 Telegraph Road  
Southfield, MI 48034-2442  
(248)-948-2021

# SPECIFICATION

[Electronic Version 1.2.8]

## [ELECTRONIC DISPLAY OF AUTOMOTIVE COLORS]

### Background of Invention

- [] Modern vehicles, such as automobiles, are typically offered to consumers in a wide variety of paint colors. Flake pigments are frequently used to add sparkle and special effects to the color. In fact, from model year to model year, it is not uncommon for a particular vehicle model to be available in several new paint colors. The actual color of the produced car may vary depending on any number of factors including changes in paint composition or variations in the paint application process. Actual paint color may vary depending on any number of factors, such as effect pigments and variations in the paint application process. Consequently, when a vehicle's body panels are damaged and require repairs (including repainting), the paint manufacturer supplies one or more paint formulations for the original paint color to customers, such as repair shops.
- [] By supplying a plurality of formulations of variances for a particular color, the paint manufacturer accounts for those factors which affect the actual color. Typically, the formulations for a particular color are distributed to repair shops, i.e., "bump" or collision shops, on paper, microfiche, and/or compact disks (CD). A color tool, composed of swatches of the variances for each color may also be produced and delivered to each customer.
- [] Furthermore, the customer must select which formulation most closely matches that part to be painted. This is typically done visually, i.e., by comparing swatches to the part or spraying a test piece with each formulation.
- [] Different formulations are derived from actual data gathered by inspectors at various locations, e.g., the automobile manufacturer or vehicle distribution point. The inspectors take color measurement readings from new automobiles which have a particular paint color and one or more effect pigments. These readings are used to develop color solutions, i.e., different paint formulations for the same color.

- [] In addition, it is common practice to examine color samples under a microscope as an aid to color matching. Analysis of a microscopic image provides information about the type and quantity of effect pigments contained in the coating. The ability to construct a mock microscopic image from a given color formulation would be a valuable aid to color matching processes. Such constructed images could, for example, be compared to the standard image to help in selecting the best starting point for a color match formulation.
- [] There are several disadvantages to the present method of distributing color solutions in this manner. One disadvantage is the cost. A copy of the paper or CD listing of all of the solutions for each color must be printed and sent to each customer, i.e., repair shop. Furthermore, new formulations are periodically developed. The new formulations and any other corrections must be sent to each customer. It is a time consuming and a laborious process to make sure every customer has the most up to date formulations. In addition, customer satisfaction is significantly reduced when the color and the effect pigments for a particular formula are not accurately represented in either an electronic image or on a swatch, thereby preventing the customer from making an informed decision.
- [] Further, many automobiles have auxiliary paint colors. Auxiliary paint colors may be used on various parts of interior or the exterior of the automobile, for example, trim, molding, wheel covers, bumpers, stripes or parts within the passenger compartment. Identifying an auxiliary paint color may be difficult, since auxiliary colors are not typically listed on the vehicle identification plate (located on the vehicle). Additionally, as a result of the many different application areas used on recent automobiles, it is often difficult to unambiguously describe the area of interest.
- [] Accordingly, the present invention is aimed at solving one or more of the problems identified above.

## Summary of Invention

- [] In one aspect of the present invention, a computer system for creating an electronic image displaying effect paint samples is provided. The system establishes a paint formula having an effect variable and generates an intermediate image having an associated color. The system further modifies the intermediate image as a function of the effect variable, generates the electronic image as a function of the paint formula, and displays the electronic image.
- [] In another aspect of the present invention, a computer based method for creating an electronic image displaying effect paint samples is provided. The method includes the steps of establishing a paint formula having an effect variable, determining an